

What is claimed is:

1. A process for making a dust control mat, said process comprising the steps of:
  - (a) positioning a textile component over a continuous layer of unvulcanized rubber;
  - (b) subjecting said textile component and said unvulcanized rubber layer to a series of temperature and pressure zones to create a mat composite, in which
    - a first zone has a first temperature and a first pressure,
    - a second zone has the first temperature and a second pressure, and
    - a third zone has a second temperature and the second pressure,wherein the first temperature is less than that of the second temperature and the second temperature is that associated with vulcanization, and wherein the first pressure is substantially that of atmospheric conditions and the second pressure is that associated with vulcanization; and
  - (c) cutting said mat composite to produce individual dust control mats.
2. The process of Claim 1 wherein said textile component comprises a continuous roll of textile material.
3. The process of Claim 1 wherein said textile component is comprised of fibers selected from the group consisting of nylon, polyester, cotton, and polypropylene.
4. The process of Claim 3 wherein said textile component is comprised of nylon.
5. The process of Claim 1 wherein said rubber layer is comprised of a rubber selected from the group consisting of acrylonitrile-butadiene rubber (NBR), styrene-butadiene rubber (SBR), carboxylated NBR, carboxylated SBR, ethylene-propylene-diene monomer rubber (EPDM), and blends thereof.

6. The process of Claim 1 wherein said rubber layer is comprised of acrylonitrile-butadiene rubber.

5 7. The process of Claim 1 wherein said rubber layer is comprised of multiple layers of rubber.

8. The process of Claim 7 wherein said rubber layer includes at least one layer of foam rubber.

10 9. The process of Claim 1 wherein said rubber layer has a thickness in the range of about 15 mils to about 200 mils.

15 10. The process of Claim 9 wherein said rubber layer has a thickness of about 60 mils.

11. The process of Claim 1 wherein the first temperature is about 90 °F.

20 12. The process of Claim 1 wherein the second temperature is in the range of about 280 °F to about 400 °F and wherein the second pressure is in the range of about 15 p.s.i. to about 50 p.s.i.

13. The process of Claim 12 wherein the second temperature is about 360 °F and wherein the second pressure is about 40 p.s.i.

14. The process of Claim 1 wherein, after vulcanization in step (b), said mat composite is carried over a roll having spikes attached thereto which perforate said rubber layer and create micro-valves on the surface of said rubber layer.

5 15. A dust control mat composite having a continuous textile upper surface that is vulcanized to a continuous rubber lower surface, said textile surface and said rubber surface having approximately the same dimensions, such that said textile surface substantially covers said rubber surface.

10 16. The mat composite of Claim 15 wherein said textile upper surface is comprised of fibers selected from the group consisting of nylon, cotton, polyester, and polypropylene.

17. The mat composite of Claim 16 wherein said textile upper surface is comprised of nylon.

15 18. The mat composite of Claim 15 wherein said rubber surface is comprised of a rubber selected from the group consisting of acrylonitrile-butadiene rubber (NBR), styrene-butadiene rubber (SBR), carboxylated NBR, carboxylated SBR, ethylene-propylene-diene monomer rubber (EPDM), and blends thereof.

20 19. The mat composite of Claim 18 wherein said rubber surface is comprised of acrylonitrile-butadiene rubber (NBR).

20. The mat composite of Claim 15 wherein said rubber surface is comprised of multiple layers of rubber.

21. The mat composite of Claim 20 wherein said rubber surface includes at least one foam rubber layer.

22. A dust control mat composite having a plurality of textile upper surfaces that are vulcanized to a continuous rubber lower surface, said textile upper surfaces comprising panels of a textile material that are positioned in spaced relation over said rubber lower surface.

23. The mat composite of Claim 22 wherein said textile material is comprised of fibers selected from the group consisting of nylon, cotton, polyester, and polypropylene.

24. The mat composite of Claim 23 wherein said textile upper surface is comprised of nylon.

25. The mat composite of Claim 22 wherein said rubber surface is comprised of a rubber selected from the group consisting of acrylonitrile-butadiene rubber (NBR), styrene-butadiene rubber (SBR), carboxylated NBR, carboxylated SBR, ethylene-propylene-diene monomer rubber (EPDM), and blends thereof.

26. The mat composite of Claim 25 wherein said rubber surface is comprised of acrylonitrile-butadiene rubber (NBR).

27. The mat composite of Claim 22 wherein said rubber surface is comprised of multiple layers of rubber.

28. The mat composite of Claim 27 wherein said rubber surface includes at least one foam rubber layer.

29. The product of the process of Claim 1.

30. The product of the process of Claim 2.

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